

FIREARMS TESTING

Firearms testing includes bullets, cartridge cases, weapons function, safety and serial number restoration.

A. Comparison of Bullets, Cartridge Cases, and Shotshell Components:

1. Collect all fragments possible.
2. Package all fragments separately in tissue paper.

NOTE: If from autopsy, rinse and allow to air dry BEFORE packaging in paper.

3. Label the source of each sample and indicate whether the sample is (K) Known or (Q) Questioned. **DO NOT MARK BULLET OR CASES!**

B. Weapons (Handle accordingly if fingerprinting is needed):

1. Record position of hammer (see example).
2. Unload and submit all available ammunition.
3. Package weapon and ammunition separately.
4. Label appropriately.
5. Indicate all exams desired, i.e., serology, fingerprinting, firing condition, or serial number restoration.

NOTE: DO NOT DRY-FIRE OR TEST-FIRE THE WEAPON!

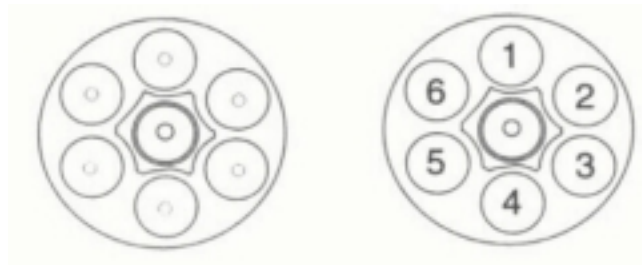
6. Marking ammunition recovered in weapons:

Revolvers:

FACING REAR OF CYLINDER

Appearance of cylinder as recovered.

Diagram to be made by officer recovering weapon.



Scratch arrow on rear face of cylinder to indicate the chamber position under hammer (inline with barrel), when recovered. Then prepare diagram numbering in clockwise direction the remaining chambers, i.e., 2.3.4.5.6. etc.

Pistols:

1. Remove magazine.
2. Unload chamber.
3. If needed, have all items checked for fingerprints.

C. Evidence for Distance Determination:

1. Record position of cylinder and ammunition.
2. Photograph the scene and autopsy with scale in photos.
3. Dry garments before packaging. Package by laying flat on butcher paper and **rolling**.
4. Submit actual weapon and identical ammunition (different barrels and ammunition produce different results).
5. submit the incident and autopsy reports with the evidence.
6. Package and mark individually wrapped evidence as described in **General Packaging Instructions**.

D. Gunshot Residue: Studies show GSR remains on hands for 3 hours, on face for 8 hours and nasal cavity for 48 hours. Call forensic laboratory for proper collection technique.

REMEMBER: Once it is collected, it is stable and can be stored indefinitely. Has to be sent to an outside laboratory at agency expense.

E. Tool Marks: This is a comparison test. You must submit the tool(s) and either the marked item or a photograph. The tool and marked object should be packaged separately.

NOTE: DO NOT ATTEMPT TO “FIT” TOOL INTO TOOL MARK!

F. Tools:

1. Package tool in wrapped and taped paper to prevent loss of trace evidence and damage to the surface of the tool.
2. Label appropriately.
3. Brace wrapped tool inside box and package according to **General Packaging Instructions**.

G. Object from Crime Scene:

1. If possible, submit the whole item to the lab. Follow **General Packaging Instructions**.

If not possible to submit whole item: Photograph the item at close, medium and distant ranges and submit photos to laboratory as described in **General Packaging Instructions**.

2. Call the forensic laboratory for assistance on casting tool mark.

FOOTWEAR EVIDENCE COLLECTION

Footwear Evidence Collection: The ability to make comparisons between shoes and an impression depends entirely on the quality of the photographs and casts and/or “lifts” of the impression. Please follow directions carefully.

A. Photographs of impressions (Use TMAX 100 black & white film).

1. Fill the camera frame with the whole impression.
2. Include an accurate scale or ruler **at the same level as the impression** in the picture. Place the scale as close **to the impression** as possible without touching the impression.
3. The camera **lens must be completely parallel to the impression** for all pictures (angled photos distort the image).
4. Position a flashlight or flash with sync. Cord so that the light source is at least five feet away from the impression.
5. Keeping a log of the photos, photograph the impression from **north, south, east and west** with three different lighting angles for a total of 12 photos.

NOTE: For dust impressions: dust impressions can often be lifted. Place the flash or flashlight at the same level as the impression and photograph using a bracket of exposures. Photograph in total darkness if possible.

6. Submit photos and negatives to the lab, packaged as noted in **General Packaging Instructions**.
7. Submit comparison shoes, if available, packaged as noted in **General Packaging Instructions**.
8. Phone forensic laboratory for assistance.

B. Casting of impressions: In case of tire tracks and other difficult or unusual situations, please contact the forensic laboratory for assistance.

REMEMBER: Casts back up photographs. Photograph properly first, then cast.

1. Place 1 ½ pounds of dental stone and 9oz of water in a large, heavy-duty ziplock bag and mix well.
2. Carefully pour the mixture onto the impression using a stick to deflect the direct stream and prevent damage to the impression.